



ASHRAE Technical Committee 5.6

MINUTES

TC 5.6 Control of Fire and Smoke
Tuesday, January 12, 2021

Virtual Meeting

ATTENDANCE

Voting Members Present	Additional Attendance		
John Klote	Yoon Ko	Stephen Carey	Julian Rochester
Paul Turnbull	Byron Hagan	David Branson	Larry Smith
Matt Davy	Cheng Chang	David John	Xin Zhang
Jim Buckley	Dahai Qi	Don Hardin	Anil Kapahi
Yuan Li	Duane Smith	Mike Knipple	
Peter McDonnell	Gerald Kettler	Samir Trabousi	
Alfred Webb (NQM)	Joe Gonzalez	Scott Hammond	
	Larry Felker	Valentina Nedelcu	
Voting Members Absent	William Webb	Kim Clawson	
	Aaron Gunzner	Chris Best	
None	Dimitry Kogan	Duncan Phillips	
	Jeronimo Santos	James Carlin	

IDENTIFICATION OF VOTING MEMBERS

Voting members in attendance are as follows: John Klote, Paul Turnbull, Matthew Davy, Jim Buckley, Yuan Li, and Peter McDonnell. Alfred Webb, a non-quorum member was in attendance. A quorum was present, 7 of 7 voting members were in attendance.

CHAIRMAN'S REMARKS

APPROVAL OF MINUTES FROM JUNE 2020

A motion was made and seconded to approve the minutes of the TC 5.6 meeting on June 13, 2020. The motion was accepted.

LITHIUM-ION BATTERY VENTILATION

Erich Binder from TC 9.2 (Industrial Ventilation) attended the meeting to discuss ventilation requirement and fire/smoke issues of Li-ion Battery storage rooms. TC 5.6 members who are interested in the topic will contact Erich for further discussion.

SUBCOMMITTEE REPORTS***Research – Matt Davy (Paul Turnbull)***

Jensen Hughes (Anil Kapahi) updated the TC 5.6 committee on the work that has been completed so far on RP-1644. A short presentation was given to report the progress on the numerical modelling and initial analyses. Milestones 1-3 are complete; they are working on Milestone 4 to analyze the data. The current challenge is to identify a reliable method for determining where the smoke layer starts to descend due to cooling of the smoke resulting from heat transfer to the walls and ceiling.

There is currently no new RTAR/WS under development.

Program – Valentia Nedelcu

Valentia discussed existing program plans, and worked with the committee to develop the plans further. For details of the program plan, see Appendix A.

Handbook Subcommittee Report – John Klote

Our chapter was in the 2019 Applications Handbook.

Next, it will be in the 2023 Applications Handbook. ASHRAE (Eric Adams) informed me that the deadline for our chapter is April 2022.

Modifications should be minor. I will get a revised chapter to TC 5.6 in the fall or this year, and ask for comments.

TC 5.6 can vote on the revised version of the chapter at the 2022 winter meeting in Las Vegas.

Standards – (Jim Buckley)

Guideline 1.5 (Commissioning Guide for Smoke Control Systems) is now the responsibility of SSPC 300. No work has been done on Guideline 1.5, but a task group chair and 3 members have been appointed. The initial goal is to republish the document so it can be placed in continuous maintenance. Any TC5.6 members who would like to participate are welcome to join and participate in the Guideline 1.5 rewrite. There is an application process to join SSPC 300. Anyone interested in participating can go to: www.ashrae.org/pcmmemberapp to complete the application process. Prospective members should indicate which subcommittees (e.g. Guideline 1.5) that they are interested in.

Membership – Larry Felker

The existing TC 5.6 roster has been updated where possible.

TC 5.6 Web Site – Duane Smith

The Committee Chairperson listed on the website is incorrect. Since this information is a fixed region managed by ASHRAE staff, assistance has been requested with getting the correct name in place.

According to ASHRAE: "The purpose of the ASHRAE TC website is twofold: to support and update the TC membership and to inform outside audiences about the TC's contributions to ASHRAE."

A discussion about "what would you want to see in a well-organized website?".

Smoke Management Software Report – Bill Webb/John Klote

This software is AtriumCalc. The good news is that no bugs have been identified in AtriumCalc.

Handbook of Smoke Control Engineering – John Klote

A draft of the next Handbook of Smoke Control Engineering was emailed to the TC 5.6 membership in December 2020.

Schedule:

1. Get Comments from TC 5.6 Membership & Others
2. Respond to Comments & revise draft
3. TC 5.6 Vote on Draft (Summer 2021)
4. Send to ASHRAE HQ

As usual with my smoke control books, I continue to check things after they have been sent out, I expect another draft will be emailed out next February.

ASHRAE Smoke Control Courses – John Klote

I have put off developing such courses until pandemic subsided and we are back to normal. \

Application Guide – John Klote

Last October, Tara Thomas of ASHRAE sent Klote an email indicating that the Publications Committee is looking into the development & feasibility of publishing Applications Guide covering HVACR topics.

They asked for suggestions for guides by Oct 27. The idea is that Publications Committee will evaluate suggestions & get back to the ones they like after this winter meeting.

I suggest an application guide on Smoke Control Technology. If ASHRAE chooses this topic, I will be notified sometime after the winter ASHRAE meeting.

INTER-SOCIETY LIAISON REPORTS***CIBSE (Chartered Institute of Building Services Engineers) – Liaison needed***

There was no report.

NFPA 80 & 105 (Standard for Fire Doors and Fire Windows) – Duane Smith

The 2022 editions of both Standards are currently being developed.

Recent activities in 2020:

- October 6-8, Second Draft Meeting reviewed all submitted Public Comments on the First Draft. Public Comments were used to develop proposed Second Revisions:
NFPA 80 and NFPA 105 have 25 and 3 proposed Second Revisions, respectively.
- December 16, Proposed Second Revisions were posted for TC vote by ballot.

Upcoming activities in 2021:

- January 20, Posting of Second Draft Report. This report is the TC's recommended text for the 2022 editions of the Standards.
- February 17, Closing date for Notice of Intent to Make a Motion (NITMAM). A NITMAM may be filed by anyone not satisfied with the work of the TC.
- March 31, two scenarios are possible:

Scenario 1 – Posting of Consent Standards. If no NITMAMs are filed or certified, the standard is sent to the Standards Council for issuance. Such Standards are referred to as "Consent Standards".

- April 15, Appeal Closing date for Consent Standards. Consent Standards are posted for public review and appeal.
- April 26, Issuance date for Consent Standards.

Scenario 2 – Posting of Certified Amending Motions (CAMs). A CAM is a certified NITMAM – a proposed amending motion to the Second Draft.

- June 25, Annual NFPA Technical Meeting. CAMs are presented to the NFPA Membership for debate and voting.
- TBD, Appeal Closing date for Standards with CAMs.
- TBD, Issuance date for Standards with CAMs.

NFPA 90A (Air Conditioning and Ventilating Systems) – Jim Buckley

Email Jim Buckley for an update.

NFPA 92 (Smoke Management) – Paul Turnbull

NFPA92–2021 was approved for publication in Oct 2020. This edition included a major effort to add dual units throughout the standard. During my review of the conversions, I found many errors. I contacted NFPA staff to see if math errors could be corrected editorially, but they replied that they could not be. As a result, I submitted two TIAs to fix the most critical errors. One of these TIAs has completed its cycle and the revised content will be merged into NFPA92–2021 before it is published. The other TIA has been approved by the Smoke Management Committee and is out for public review with a closing date of January 18, 2021.

The 2021 edition of NFPA92 and both of these TIAs are of particular interest to TC5.6 for multiple reasons.

1) The results of research that we sponsored (RP-1600 Methods to Increase Maximum Velocity of Make-up Air for Atrium Smoke Control) are now included in the Annex of NFPA92 as a method of increasing the makeup air velocity beyond 200 fpm (1 m/s) and calculating the corresponding increase in exhaust needed.

2) The TIAs corrected errors and confusing presentations of units that are also present in the ASHRAE Handbook of Smoke Control Engineering. Since the Handbook of Smoke Control Engineering is currently being revised, these same corrections should be included in the next edition of the Handbook.

AMCA – Aaron Gunzner

Aaron Gunzner was in attendance, but the Agenda listed Dane Carey as the person providing the report. Email Dane Carey for an update.

Underwriters Laboratories – Aaron Gunzner

Aaron Gunzner was in attendance, but the Agenda listed Dane Carey as the person providing the report. Email Dane Carey for an update.

SFPE – Matt Davy

SMACNA – Delaine Deer (absent) No report. Emails to Delaine Deer are returned as invalid. New liaison needed.

OLD BUSINESS

NEW BUSINESS

FG evaluation was discussed.

ADJOURNMENT

The meeting was adjourned. Around 3:20pm Eastern time

Appendix A

TC 5.6 Program Subcommittee Report Virtual Meeting – Winter 2021

1. Current (Chicago) Virtual Meeting Programs:

8 Tracks with 40 live and more than 80 on-demand sessions (most PDHs), available for 18months.

As program of interest:

- Seminar 67: Life Safety Dampers, Back to Basics. sponsored by our TC and presented under Systems and Equipment Track is on-demand session
Chair: Paul Turnbull

All but the smallest buildings are required to include life safety dampers to ensure that fire and smoke cannot travel through ductwork and spread to other areas of the building.

Life safety dampers are very different from the dampers used for HVAC control. This session will help engineers and installers understand the differences between fire-, smoke-, combination fire/smoke-, and ceiling radiation dampers; the applications for which each is suited; and how to specify these dampers correctly. It also describes different ways that each of these dampers are activated and/or controlled. Installation, testing, and inspection methods and requirements are discussed.

Presentations:

- What Are Life Safety Dampers? Stephen D Carey
- Wiring and Controls of Life Safety Dampers. Larry Felker
- Testing and Installation of Life Safety Dampers. Stephen D Carey

2. Future Conferences Programs/Topics.

2021 Summer Meeting:

There are two extended abstracts accepted for the 2021 ASHRAE summer meeting and currently under ASHRAE's 2nd round of review.

These papers are authored by Yoon Ko , Dahai and others. We indicated that the papers are linked and could be sponsored by TC 5.6 and TC 6.7 (Solar and Other Renewable Energies) .

- Fire Risks of Renewable Energy Technologies in Buildings: Fire Effluents from PV and Li-ion Battery Fires
- Fire Smoke Control for Building Integrated Photovoltaic (BIPV)

Other Topics :

- Getting Started at Atrium Smoke Control Design. John Klote
- Elevator Shafts, Methods of Testing for Leakage. Gary Nelson (Energy Conservatory)
No updates at the last meeting.
- With increased focus on Building Energy Efficiency resulting in tighter building envelopes do the new features affect Smoke Management and how. With increased airtightness an increase in smoke pressure is expected. In this scenario is the minimum pressure difference requirement to protect stairwells or any evacuation route or shelter in place or not?
A review paper to discuss articles/journals published over the past 2-3 years on the topic. Yoon Ko
- How glazing separations in atrium, around elevator shafts are affecting Smoke Management of the space.

Impact on the vertical smoke rise ventilation looking at 2 scenarios when the glazing is not protected and when glazing is protected. Are any studies done to assess if glazing is different from other materials used for partitions, and how. The general assumption is that the walls remain standing, is glazing true to that assumption?

Topic proposed by Greg Sanchez.

3. Updates from CEC

Future Conferences

Year	Winter	Annual
2021	Jan 23-27 – Chicago, IL	June 26–30 – Phoenix, AZ
2022	Jan 29- Feb 2, Las Vegas NV	June 25-29- Toronto, ON
2023	Feb 4-8, Atlanta, Georgia	June 24-28, Tampa Bay

- **Phoenix** Annual Meeting, June 2021

Phoenix Deadlines 2021 – June 26 - 30, 2021

Monday January 4, 2021: Conference Paper Accept/Revise/Reject Notifications

Wednesday January 6, 2021: Website Opens for Seminar, Workshop, Forum, Debate, and

Panel Proposals

Wednesday January 13, 2021: Revised Conference Papers/Final Technical Papers Due

Monday February 8, 2021: Program Submissions Due / Extended Abstracts Due

Thursday February 18, 2021: Conference and Technical Paper Final Accept/Reject Notifications

Friday March 19, 2021: Program Submissions Accept/Reject Notifications

Tracks:

1. Fundamentals and Applications.
 - Track Chair Sonya Pouncy, sonyapouncy@gmail.com
 2. HVAC & Systems and Equipment.
 - Track Chair. Rupesh Iyengar, rupesh_iyengar@yahoo.com
 3. Research Summit.
 - Track Chair. Kristen Cetin, cetinkri@msu.edu
 4. Professional Development.
 - Track Chair. Marites Calad, mcalad@norman-wright.com
 5. Design, Control, and Operation of Critical Environments.
 - Track Chair. Raul Simonetti, raul.simonetti@carel.com
 6. HVAC&R for Indoor Plants & Animals.
 - Track Chair. Ryan MacGillivray, ryan.macgillivray@dwel.com
 7. Future Proofing Renewable, Regenerative, and Resilient.
 - Track Chair. Andy Cochrane, acochrane@industrialairinc.com
 8. Hot Hot Hot, the world is warming.
 - Track Chair. Nohad Boudani, nohadb@inco.com.lb
 9. Mini track. To be announced.
- **Las Vegas NW**, Winter Meeting Jan 29-Feb2
- No information available at the time the report was submitted. Will update as soon as is available.